Research paper

Mediating effect of job performance between emotional intelligence and turnover intentions among hospital nurses during the COVID-19 pandemic: A path analysis

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ABSTRACT

Background: Nursing shortages are a persistent and concerning problem for the nursing workforce worldwide. However, the COVID-19 pandemic has brought additional stressors and workloads and has worsened nursing shortages.

Aim: To investigate interrelationships among emotional intelligence, job performance, and turnover intentions of nurses during the coronavirus disease 2019 (COVID-19) pandemic, and explore the mediating effect of job performance between emotional intelligence and turnover intentions.

Methods: A cross-sectional survey was conducted. In total, 673 nurses working in a medical centre hospital in northern Taiwan were recruited from November 2020 to April 2021. An anonymous questionnaire was used in this survey. Data were collected using a seven-item turnover intention scale, a 16-item emotional intelligence scale, a 24-item job performance scale, and demographic questions. A path analysis was performed. This study was based on STROBE guidelines.

Findings: Statistically significant correlations between turnover intentions and emotional intelligence ($r = -0.10$, $p = 0.012$), between turnover intentions and job performance ($r = -0.13$, $p = 0.002$), and between emotional intelligence and job performance ($r = 0.54$, $p < 0.001$) were detected. Model fit indices were adequate. Job performance had a significant indirect effect between emotional intelligence and turnover intentions ($\beta = -0.16$, $p = 0.011$).

Discussion: It was found that job performance was a mediator between emotional intelligence and turnover intentions during the pandemic. The study results support the need to continue to create healthy work environments.

Conclusion: These results can assist hospitals in developing specific evidence-based interventions such as showing appreciation and providing acknowledgments to reduce turnover of their nurses during the COVID-19 pandemic.

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Summary of Relevance

Problem or Issue

The coronavirus disease 2019 (COVID-19) pandemic has brought additional stressors and increasingly severe working conditions, which have increased the likelihood of staff turnover. Retaining the nursing workforce has become a priority.

What is Already Known

Emotional intelligence and job performance can individually predict turnover intentions; however, limited research investigates the mediating effect of job performance between emotional intelligence and turnover intentions.

What this Paper Adds

Job performance had significant indirect effects on emotional intelligence and turnover intention. Hospital administrators should introduce regular individual-level training programs such as mindfulness-based stress reduction to build emotional intelligence, and should provide nurses with appreciation and acknowledgment to assist nurses to cope better with the effects of COVID-19 and decrease turnover intention in the nursing workforce.

1. Introduction

Nursing shortages continue to be a persistent and concerning problem for the healthcare industry. However, the coronavirus disease 2019 (COVID-19; also called severe acute respiratory syndrome-coronavirus-2 [SARS-CoV-2]) pandemic has brought additional stressors and increasingly severe working conditions, which have increased the likelihood of staff turnover (Zhang et al., 2022). For instance, a Policy Brief released by the International Council of Nurses in 2021 show that 36% of the current nursing workforce in the United Kingdom considered leaving during the COVID-19 pandemic, which was higher than in the prepandemic period (International Council of Nurses, 2021). Further, the increased number of health staff who died after caring for COVID-19 patients placed great psychological pressure on frontline nurses, which in turn threatened their work satisfaction (Falatah, 2021). There are currently no effective medications to treat patients with COVID-19. Although nurses have now been vaccinated, due to mutations of the virus the vaccine can only provide a certain degree of protection, but cannot fully guarantee that nurses will not be infected. In addition, nurses have exhausting work schedules and sometimes have had to deal with insufficient personal protective equipment (Kelly, Gee, & Butler, 2021). Under these circumstances, nurses suffer from high levels of psychological distress and are more likely to leave their jobs and/or shift to another career (Zhang et al., 2022). This exacerbates the already insufficient nursing manpower situation. There are still many unknown variables, including the possibility of facing a fourth or even a fifth wave of the epidemic, and the fact that life cannot fully return to normal any time soon. As the epidemic is unpredictable and volatile, the number of COVID-19 patients can increase exponentially. When hospitals are short of nursing manpower, it is uncertain how healthcare systems can prepare and respond. Therefore, retaining the nursing workforce has become a priority.

2. Literature review

Turnover intentions are viewed as the final step in the decision-making process before an individual actually leaves a workplace (Mobley, 1982). Accordingly, research on turnover intentions in
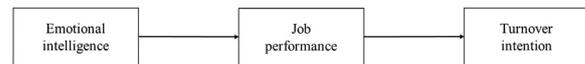

Fig. 1. Conceptual model.

nursing practice, including determining factors that contribute to nurses' turnover intentions can be a foundation of knowledge to guide best practices for retaining nursing staff for COVID-19 health care.

In the COVID-19 treatment process, nurses face high work intensities, high risks of exposure to infection, and limited information about the SARS-Cov-2 virus, and such stressful work environments can affect nurses' emotions (Allande-Cussó et al., 2021). Therefore, nurses' emotional intelligence (EI) is important to consider when facing challenges of turnover intentions in the course of COVID-19 health care. EI is viewed as an individual's ability to perceive one's own emotions, and provides a source for using an inner cognitive ability of employees to sense others' emotions and manage their own emotions in reaction to stress from the work environment (Lee, Lee, & Chung, 2019). EI is also considered to be a protective factor (Mayer, Caruso, & Salovey, 2016). Previous empirical studies have demonstrated that EI was negatively associated with turnover intentions (Cheung, Wong, & Chiu, 2021), and was related to good job performance (Myers & DeWall, 2017). Employees with high levels of EI are more likely to be more sensitive and reactive to positive emotion-evoking experiences (Pau & Sabri, 2015); hence, they may be more inclined to avoid negative behaviors in order to maintain or foster positive emotions. On the other hand, employees with low levels of EI are more immune to positive feelings and less likely to avoid negative side effects. As a result, nurses with high levels of EI may be more resilient and therefore less likely to leave the workforce because of the COVID-19 pandemic. In addition, these nurses are more energetic and effective in their task performance when they feel capable of fulfilling their job requirements (Myers & DeWall, 2017).

Job performance is defined as the extent to which the behaviors of nurses match the goals, and achieve the desired results of their employer (Sony & Mekoth, 2016) and reflects how effective a nurse is in using influential opportunities (Pourteimour, Yaghmaei, & Babamohamadi, 2021). A prior study demonstrated a negative relationship between good job performance and turnover intentions (Zimmerman & Darnold, 2009). Empirical studies showed that EI is positively associated with good job performance (Alonazi, 2020). As EI is not only the ability to manage one's own feelings, but also the capacity to understand others' feelings within an organisation (Mayer et al., 2016), individuals who have clear abilities to express and repair emotions can significantly contribute to their own success (Alonazi, 2020). EI and job performance can individually predict turnover intentions. Limited research has investigated the mediating effect of job performance between EI and turnover intentions, although previous research showed that one's job performance has a mediating effect on the relationship between affective states and job satisfaction (Ghasemy, Mohajer, Cepeda-Carrión, & Roldán, 2022). Accordingly, there is a need to investigate interrelationships among emotional intelligence, job performance, and turnover intentions of nurses, and to explore the mediating effect of job performance between emotional intelligence and turnover intentions. As a result, the current research developed a conceptual model (Fig. 1). This study documented relationships among EI, job performance, and turnover intentions, and investigated job performance as a mediator variable during the COVID-19 pandemic.

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3. Methods

3.1. Design, setting, and participants

A cross-sectional design with a self-reported questionnaire was used for this study. The study duration was from November 1, 2020 to April 30, 2021. A convenience sample of 673 nurses working in a 726-bed public teaching hospital in northern Taiwan was recruited. The hospital was designated a COVID-19 referral hospital by the Taiwan Ministry of Health and Welfare to deliver services and manage confirmed COVID-19 cases in 2019. The inclusion criteria for nurses were: (i) holding a full-time job and (ii) having worked in the hospital for at least 3 months. Incomplete questionnaires were excluded from the study. The sample size was calculated using PROC POWER in SAS, version 9.4. There were 13 variables (contextual and confounding) in the model, which suggested a sample size of 325 nurses based on partial correlation of 0.25 (Cheung et al., 2021) and type 1 error of 5% with power of 0.99.

An anonymous, paper-based, structured questionnaire was distributed to potential respondents. Nurses' voluntary completion and return of the questionnaire were assumed to imply consent. In total, 623 nurses returned the questionnaire but among them, 25 questionnaires were incomplete and had blank responses exceeding 50%, creating missing data. Hence, 598 valid samples were collected for the analysis, indicating a response rate of 89%.

In order to guarantee comprehensive research reporting, we used the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guideline (von Elm et al., 2008) for cross-sectional studies (Supplementary File 1).

4. Measures

4.1. Turnover intentions

This scale was modified based on Chen, Brown, Bowers, and Chang's (2015) scale. In total, seven items use a five-point Likert scale ranging from 1 (never) to 5 (every day). Examples of items included in the scale are: "How often do you think of changing to another nursing unit in the hospital?", "How often do you think of changing to another hospital?", and "How often do you think of leaving nursing completely?" The total score ranges from 7 to 35, with a higher score indicating a higher level of turnover intention. The Cronbach's alpha value in the study conducted by Chen, Brown, Bowers, and Chang (2015) was 0.72, and in the present study was 0.76.

4.2. Emotional intelligence (EI)

The 16-item Emotional Intelligence Scale (Wong & Law, 2002) was used to assess EI. The scale includes four subscales: the expression of emotion in oneself, the recognition of emotion in others, the regulation of emotion in oneself, and the use of emotions to facilitate performance. Each item is assessed on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The total score ranges from 16 to 80, with a higher score indicating a higher level of EI. This measure revealed good levels of reliability and validity, and its Cronbach's alpha was greater than 0.75 (Wong & Law, 2002). Cronbach's alpha of the scale in this study was 0.92.

4.3. Job performance

Job performance was measured using the Motowidlo and Van Scotter (1994) scale. In total, 24 items included task performance and contextual performance. A five-point Likert scale was used for evaluation, where values range 1 (much below average) to 5 (much above average). The total score ranges from 24 to 120, with a higher score indicating higher performance. This scale had good psychometric properties in previous research (Motowidlo & Van Scotter, 1994), and the Cronbach's alpha value in the study conducted by Bang and Reio Jr was greater than 0.70 (Bang & ReioJr, 2017). Cronbach's alpha of the scale in this study was 0.94.

4.4. Confounding factors

Empirical studies have shown that demographic variables, including age, gender, marital status, years in nursing and in the current hospital, having children, educational level, licensing, position, and unit, influence turnover intentions.

4.5. Data collection

The chief nurse executive of the hospital was supportive and provided approval for the study. A meeting with all nurse managers was scheduled to discuss the details of the study, and to instruct the procedure of distributing packages to nursing staff. Each package was distributed to each nurse by either nurse managers or the researchers (CYW, CSW, and SHL). The package included a cover letter, a New Taiwan (NT)$100 (≈US$3) gift certificate, a questionnaire, and a postage-paid return envelope. The cover letter, provided nurses with written explanations about the purpose of the study, inclusion and exclusion criteria, their rights as human participants, and suggestions for completing the questionnaire in a private area. Nurses were asked to return the completed questionnaire in the enclosed postage-paid envelope directly to the researcher (CYW) within 2 weeks. The NT$100 gift certificate was included as a token of gratitude for their time and effort.

5. Ethical considerations

Prior to data collection, the study was reviewed and approved by the Institutional Review Board of the authors' university (IRB no. N201910033). Nurses were informed about the purpose of the study and that participation was voluntary. Further, they were assured that their participation and their data would remain confidential, and that returning the completed questionnaire indicated their consent to participate in the study.

6. Data analysis

Analyses were conducted with SPSS vers. 26.0 (SPSS, Chicago, IL), PROCESS macro, and AMOS vers. 20. (IBM Corporation, Armonk, NY). Nurses' characteristics were analysed using mean, standard deviation (SD), standard error (SE), frequency, percentage, and range. Levels of turnover intentions, EI, and job performance were analysed using the mean and SD. The normality of the sample was examined using standardised skewness and standardized kurtosis values, and none of the measured variables were found to violate the normality assumption. A correlation analysis and analysis of variance were applied to test relationships among variables to identify meaningful associations. Significant variables were included in the path model. On this basis, this study controlled for age and gender, which may have an impact on nurses' turnover intentions. To assess the fit of the conceptual model to the empirical data, X^2/df statistics, goodness-of-fit index (GFI), the adjusted GFI (AGFI), comparative fit index (CFI), and root mean square of approximation (RMSEA) were applied. A model is considered to have very good fit if $X^2/df < 5$, the GFI, AGFI, and CFI are >0.95, and the RMSEA is <0.08 (Schumacker & Lomax, 2004). A path analysis was used to investigate the effects of EI on job performance and turnover intentions. Maximum likelihood estimations

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Table 1

Nurses' characteristics (N = 598).

Variable	Mean (SD)	n (%)	Range
Age (years)	32.19 (8.27)		22–63
Gender			
Female		566 (94.6)	
Male		32 (5.4)	
Marital status			
Single		419 (70.3)	
Married/cohabitating		168 (28.2)	
Divorced/separated		9 (1.5)	
With children			
None		478 (80.1)	
With		119 (19.9)	
No. of children ≤18 years old			
One		46 (45.1)	
Two		49 (48.0)	
Three		7 (6.7)	
No. of children >18 years old			
One		14 (58.3)	
Two		10 (41.7)	
Educational level			
Vocational school		3 (0.5)	
Junior college		184 (31.1)	
University		380 (64.3)	
Graduate school		24 (4.1)	
License			
Registered nurse		579 (98.0)	
Licensed practical nurse		12 (2.0)	
Position			
Frontline nurse		558 (93.6)	
Nurse manager		38 (6.4)	
Unit			
Internal medicine ward		283 (47.3)	
Surgical ward		140 (23.4)	
Gynecology/pediatrics ward		59 (9.9)	
Emergency department		40 (6.7)	
Outpatient department		55 (9.2)	
Others (e.g., psychiatric ward)		21 (3.5)	
Years in nursing	8.96 (7.63)		0.25–42.17
Years in current hospital	7.27 (6.07)		0.25–23.75
Emotional intelligence	3.77 (0.47)		1–5
Job performance	3.75 (0.45)		1–5
Turnover intentions	1.81 (0.62)		1–5

SD, standard deviation.

Table 2

Associations of characteristics and study variables with turnover intentions.

Variable	Turnover intentions (P value)
Age	−0.10 (0.019)
Gender (female)	−0.10 (0.018)
Marital status[a]	0.42 (0.658)
No children	−0.06 (0.183)
Educational level[a]	0.25 (0.864)
License (registered nurse)	0.01 (0.876)
Position (frontline nurse)	−0.01 (0.724)
Unit[a]	0.33 (0.803)
Years in nursing	−0.04 (0.396)
Years in current hospital	−0.05 (0.257)
Emotional intelligence	−0.10 (0.012)
Job performance	−0.13 (0.002)

[a] Analysis of variance, F value.

Table 3

Standardized path coefficients and standard errors (SEs) for the theoretical model after controlling for covariates.

Path	Estimate	SE	P
Age→turnover intentions	−0.01	0.003	0.017
Gender→turnover intentions	−0.15	0.11	0.17
EI→job performance	0.52	0.03	<0.001
Job performance→turnover intentions	−0.30	0.11	0.004
EI→job performance→turnover intentions	−0.16		0.011

EI, emotional intelligence.

were adopted as the parameter estimation algorithm with missing cases treated as listwise deletions. Standardised parameter estimates and SEs for the model are presented. Two-tailed p values were used, which were significant at <0.05.

7. Results

7.1. Nurses' characteristics

Nurses' characteristics are summarised in Table 1. The mean age was 32.19 ± 8.27 years, and the vast majority of the sample was female (94.6%). Most of the nurses were single (70.3%), and 28.2% were married or cohabitating. Also, most of them had no children (80.1%), had a university degree (64.3%), were registered nurses (98.0%), were in frontline positions (93.6%), and worked on internal medicine wards (47.3%). The mean total work experience in nursing and in the current hospital were 8.96 ± 7.63 and 7.27 ± 6.07 years, respectively.

7.2. Turnover intentions and associated variables

Mean scores of turnover intentions, EI, and job performance were 1.81 ± 0.62, 3.77 ± 0.47, and 3.75 ± 0.45, respectively (Table 1). A significant correlation was found between turnover intentions and age, and turnover intentions and gender (Table 2). Also, there were statistically significant correlations between turnover intentions and EI ($r = -0.10$, $p = 0.012$), between turnover intentions and job performance ($r = -0.13$, $p = 0.002$), and between EI and job performance ($r = 0.54$, $p < 0.001$).

7.3. Testing of the hypothetical model

As for the model fit, X^2/df = 3.76, GFI = 0.99, AGFI = 0.96, CFI = 0.94, and RMSEA = 0.068, which indicated a good model fit. As shown in Table 3, EI had a direct effect on job performance ($\beta = 0.52$, SE = 0.03, $p < 0.001$). Also, job performance had a direct effect on turnover intentions ($\beta = -0.30$, SE = 0.11, $p = 0.004$). The indirect effect of job performance, which had an effect on the path of EI → turnover intention, was −0.16 ($p = 0.011$).

8. Discussion

Healthcare systems have been largely unprepared for the COVID-19 epidemic and burgeoning cases threaten their effectiveness. Throughout the pandemic, the need for increased nursing workforce has continued. Existing medical capacity needs to meet original care needs and also provide for increasing numbers of new coronary pneumonia infections and the healthcare needs of critically ill patients, resulting in sharp increases in the intensity of care delivered and the level of risk to nurses of contracting COVID-19. Our study results support the need to continue to create healthy work environments. Understanding how nurse performance impacts nurse turnover intentions not only adds to the body of knowledge relating to nurse performance and turnover, but also highlights the significance of how EI influences nurses' job performance during a pandemic. The results provide evidence to enable hospitals to identify nurses' concerns about turnover intentions to enable early actions so that the nursing staff can remain motivated to provide care for patients during the prolonged COVID-19 pandemic.

Previous studies revealed that higher stress and burnout related to the current pandemic have contributed to high levels of turnover intentions in hospital settings (Cai et al., 2020;

Falatah, 2021). Conversely, results of our study revealed that this group of nurses had low levels of turnover intentions. There are several possible reasons for this. (i) They might feel that their job provides a moral sense (Cheng, Du, Chang, & Huang, 2008) and perceive that it is their professional obligation to provide patients with treatment and care, particularly during the severe outbreak of COVID-19. (ii) They are possibly excited by and highly committed to their work, especially when they are professionally challenged in times of a pandemic. This assumption is consistent with the literature on first-line medical staff during the COVID-19 pandemic, which found that first-line medical staff continue to show high intrinsic motivation when working with infected patients (Cai et al., 2020). (iii) Medical personnel in Taiwan were involved in the management of the original SARS epidemic in 2003. The lessons learned from that experience may have potentially improved management of the current COVID outbreak and reduced turnover intentions. Nonetheless, the COVID-19 outbreak has impacted the world for more than 2 years. So far, many different virus variants have been detected, and several variants of the virus continue to spread extensively (e.g., delta and omicron). Since there is no specific recommended treatment for all coronaviruses, supportive therapies are often used. Although there are vaccines to prevent coronavirus infection, the speed at which the virus mutates, difficulties in obtaining vaccines, and the concerns over possible vaccine side effects continue to post challenges to turnover intention. In view of this, COVID-19 is potentially causing nursing staff turnover. Moreover, according to statistics from June 2021 from the Taiwan Union of Nurses Association, the practice rate of licensed nursing staff is only 59.3% (Taiwan Union of Nurse Association, 2021); in addition, the average annual turnover rate is about 12.72% and the average vacancy rate is 6.72% (Taiwan Ministry of Health and Welfare, 2020). Hence, the capacity to retain and replenish the nursing workforce remains concerning.

Nurses in this study reported moderate to high levels of EI, similar to nurses in previous research who directly cared for patients diagnosed with COVID-19 (Alonazi, 2020). Also, results of this study showed that, the higher the level of EI that nurses have, the better they performed. Hospital nurses encounter stressful work environments because of high demands for nursing care. Individual EI can facilitate the resilience of nurses who are under stress to perform well and experience higher satisfaction with their job (Alonazi, 2020). In addition, it is necessary for nurses to coordinate with physicians and other healthcare providers; hence, it is critical for nurses with sufficient EI to recognise and manage their own emotions as well as those of others. Evidence supports that individuals with high EI tend to be better equipped to select effective emotional regulatory strategies than those with low EI (Laborde, Dosseville, & Allen, 2016). EI was found to improve with learning, experience, and training (Gardner, 1995); therefore, it is critical to help nurses find strategies to enhance their abilities to control their emotions. Accordingly, hospitals should implement EI training workshops for nurses, which would benefit both nurses and the hospital who employs them.

This study emphasises the significance of nurse performance in reducing nurse turnover intentions. Results of this study showed that job performance totally mediated the relationship between EI and turnover intentions. During the COVID-19 pandemic period, hospital nurses not only need to care for and treat patients with and without COVID-19, but they also have to extend their scope of practice by engaging in planning for anticipated COVID-19-related outbreaks (Fawaz, Anshasi, & Samaha, 2020). Such an excessive workload can influence their job performance. However, according to EI theory (Salovey & Mayer, 1990) and expectancy theory (Lawler & Porter, 1967), nurses with better EI tend to have positive points of view when dealing with a current crisis and consequently, their performance is enhanced. They are intrinsically satisfied with their performance and perceive this positive effect as a motivating mechanism to perform better and alleviate intentions to leave. Additionally, due to good performance, nurses likely receive external encouragement or rewards from the hospital (e.g., promotions and allowances), and these can help nurses turn stress into motivation. Evidence demonstrated that a supervisor's perspective of a nurse's job performance matters more in affecting the nurse's turnover intentions than objective performance and self-ratings of performance, especially in collectivist societies (Zimmerman & Darnold, 2009). Taiwan is considered to be a highly collectivist society; hence, nurses value how their supervisor perceives their performance. Nurse supervisors should ensure that psychological and social support is provided to nurses to enhance their performance in the current conditions.

Based on these findings, we provide the following suggestions for recruiting nurses and improving their job performance. First of all, when interviewing, hospital administrators should pay attention to and select nurses with high EI. Second, it is vital for hospital administrators to introduce regular individual-level training programs such as mindfulness-based stress reduction and mental health awareness resources (Kelly et al., 2021). This can build EI so that the positive energy that strongly characterises a nurse's job performance gets channelled more effectively into reducing turnover intentions during COVID-19. Third, nurse supervisors should show appreciation and acknowledgment of nurses' roles and contributions, and this may play a vital role in helping nurses better cope with the effects of COVID-19 and decrease their turnover intentions.

9. Limitations

A review showed that most published research reported during COVID-19, of nurses' turnover intention predictors, included fear of the disease, stress, and anxiety (Falatah, 2021). Building on previous studies, this study expanded relevant information on nurse turnover and strengthened the development of ways to avoid such a scenario. The great innovative value of this study is its acknowledgement of organisational behaviors and the construction of a healthy organisation. Nevertheless, the results of this study should be interpreted with caution due to some limitations. First, this cross-sectional design could not establish causality. Second, a convenience sampling was employed, and all participants were from a single hospital; hence, generalisability might not have been established. The research population in this study was limited to Taiwanese frontline nurses, and thus the results might not apply to other professions and nurses from different cultural backgrounds. Thus, it is recommended that studies be carried out in other populations to increase the robustness of the current findings. Third, self-reported data may be subject to a socially desirable response bias. Adding data from nurse managers' points of view in future studies could yield more-objective assessments. Fourth, researchers claim that females have higher average EI than males (Štiglic et al., 2018). The ratio of male to female nurses in this study was low, which may have caused an overestimation of the results. However, the nursing profession is predominantly female. Fifth, we only quantitatively examined several job-related variables. Hence, it is suggested that future studies need to investigate how other variables, such as different generations (Nashwan et al., 2021) and workplace violence against nurses (Zhao et al., 2018), influence nurse turnover intentions, and further employ qualitative studies to provide a more in-depth understanding of nurses' experiences in the pandemic. Sixth, the time of this research coincided with the severe global epidemic of COVID-19, and the response status of the participants may have been affected by this phenomenon. It is recommended that in the future, when the severity of the epidemic wanes, differences and the relevance of nurses' intentions to

leave can be further explored through comparison. Seventh, we did not investigate differences between nurses caring for patients with COVID-19 and those not caring for patients with COVID-19. Further research may investigate how this variable affects nurse turnover intentions.

10. Conclusions

The current worldwide epic pandemic has not yet drawn to an end, and further waves of emerging infectious diseases will definitely appear in human societies in the future. Understanding factors that contribute to nurse turnover intentions is important to workforce planning, particularly during pandemics. Our study revealed that job performance had a total mediation effect on the relationship between EI and turnover intentions. That is, nurses with high EI are more likely to have better job performance and therefore would have lower turnover intentions. These results can help hospitals and individual nurses understand how improving EI can strengthen their adaptability to the tremendous pressures experienced, and that further enhancing job performance can reduce turnover issues of nurses during the COVID-19 pandemic.

Author contributions

Authors I-Hui Chen, Chin-Yun Wang, and Yen-Kuang Lin designed the study, advised on the conceptual development, conducted the statistical analysis, and wrote the manuscript. Authors Chin-Yun Wang, Cai-Shih Wang, and Shu-Hui Lin collected the data. Authors I-Hui Chen, Yen-Kuang Lin, and Kath Peters conducted literature searches and advised on the development of this study. All authors have contributed to and approved the final manuscript.

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Ethical statement

Prior to data collection, the study was reviewed and approved by the Institutional Review Board of Taipei Medical UNiversity (IRB no. N201910033). Nurses were informed about the purpose of the study, their voluntary participation and confidentiality of data, and that returning the completed questionnaire represented their consent.

Conflict of interest

None.

Acknowledgements

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.colegn.2022.09.006.

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